



Alternative Floodplain Management Strategies Study

**Presentation to Mayor's Floodplain Task
Force**

Lincoln, Nebraska

November 5, 2002



Today's Presentation

- 1. Modifications to the Economic Evaluation of Alternative Floodplain Regulations along Dead Man's Reach between 33rd & 56th**
- 2. Roundtable Discussion of Floodplain Management Fact Sheets**
- 3. News Video**

Public Building Flooding

Building	Estimated Value	Flood Damage Values		
		No Net Rise	0.5 ft Rise	1.0 ft Rise
Road Maintenance	\$345,800	\$0	\$0	\$7,867
Nebr. Game & Parks Bldg 1	\$6,200,000	\$0	\$141,042	\$560,914
Nebr. Game & Parks Bldg 2	\$4,900,000	\$0	\$111,469	\$443,303
Landscape Services West	\$480,816	\$0	\$10,938	\$43,499
Landscape Services East	\$594,533	\$0	\$0	\$0
Ag. Warehouse No. 1	\$1,427,025	\$0	\$0	\$0
Ag. Warehouse No. 2	\$1,415,100	\$0	\$0	\$0
University Place Park Pool	\$1,188,000	\$0	\$0	\$0
Total		\$0	\$263,449	\$1,055,583
Percent Reduction		100%	75%	Base

Public Access Street Costs

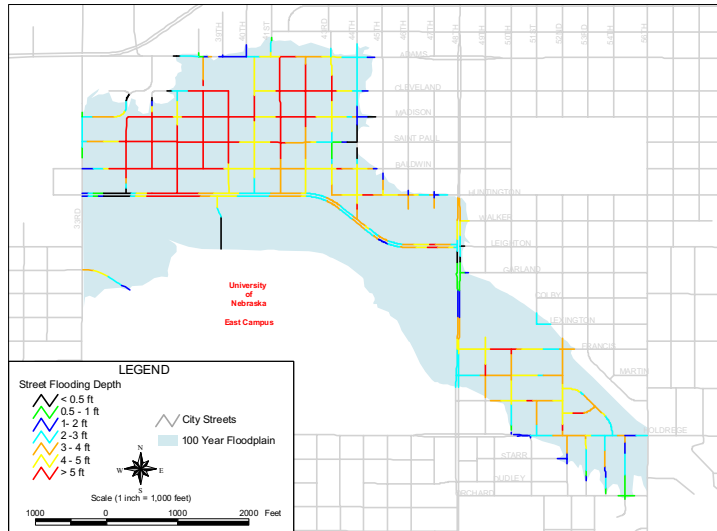
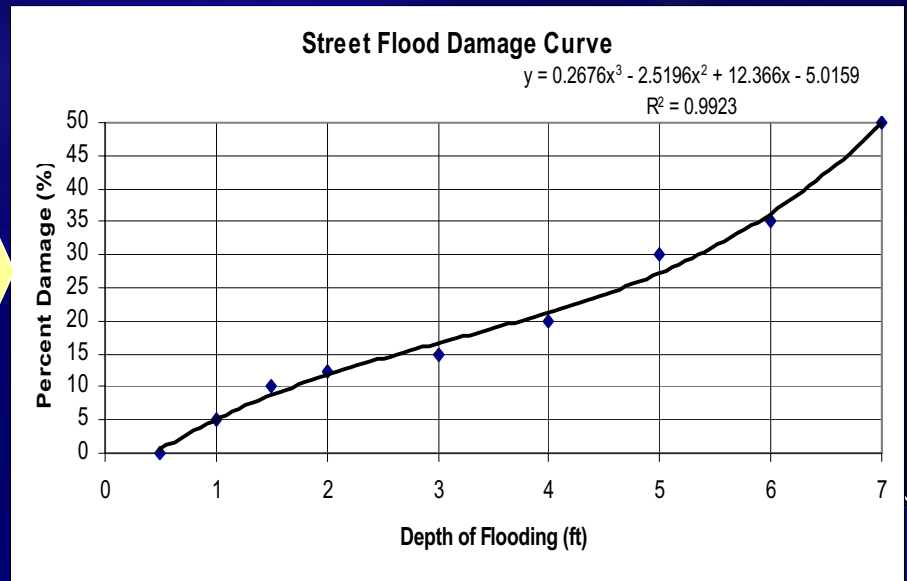


Figure XX
Street Flooding for 1.0 ft Rise Scenario



Management Scenario	Total Length (ft)	Cost	Percent Reduction
No Net Rise	69,863	\$1,981,000	27%
0.5-ft Rise	70,747	\$2,320,000	14%
1.0-ft Rise	75,524	\$2,707,000	Base

Stream Crossing Structures Cost Estimate

Location	No Net Rise*	0.5 ft Rise	1.0 ft Rise
33 rd & Baldwin Culvert	\$0	\$0	\$0
Huntington Ave. Bridge	\$0	\$0	\$0
UNL – East Campus Bridge	\$0	\$0	\$0
48 th Street Bridge	\$0	\$927,000	\$1,016,000
Pedestrian Bridge	NA	NA	NA
52 nd & Francis St. Bridge	\$828,300	\$879,000	\$900,000
56 th & Holdrege Culvert	\$687,500	\$732,600	\$770,500
Total	\$1,515,800	\$2,538,600	\$2,686,500
Percent Reduction	44%	6%	Base

* Compensatory storage cost included in No Net Rise Management Alternative

Public Infrastructure Estimated Percent Reduction in Costs

Type	No Net Rise*	0.5 ft Rise	1.0 ft Rise
Public Buildings	100%	75%	Base
Public Access Streets	27%	14%	Base
Stream Crossing Structures	44%	6%	Base

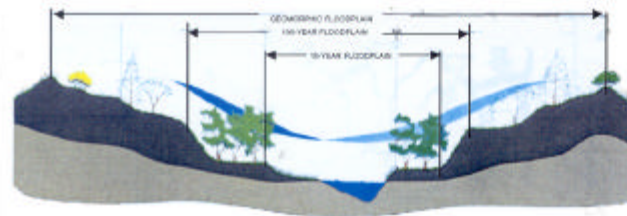
* Compensatory storage cost included in No Net Rise Management Alternative

^ Percent reduction from existing regulation of 1-ft Rise

Floodplain Management Fact Sheets

Floodplain Management: No-Net Rise and Compensatory Storage

DRAFT



Description

No-net rise floodplain management strategy requires developers to show that proposed improvements do not increase flood elevations at the site and/or downstream. Developments within the floodplain that increases the regulatory floodplain water surface elevations are prohibited. No-Net Rise is often combined with compensatory storage to provide some flexibility for the developer. Compensatory storage requires the developer to provide hydraulically equivalent storage volume at a ratio of 1 to 1 or greater for the fill volume proposed within the floodplain. A No-Net Rise/Compensatory storage policy would allow the developer to fill in the floodplain if it can be demonstrated that the fill will not increase the floodplain water surface elevations.

A no-net rise/compensatory storage floodplain management alternative should not be confused with "no net loss". Often, a "no net loss" approach simply requires equal amount of fill and excavated volume, and does not require hydraulic simulations to verify a no-net rise in the floodwater elevations.

Advantages

- ★ Maintains floodplain storage volume.
- ★ Prevents downstream increase in peak flow rates by maintaining the floodplain storage.
- ★ Maintains existing flood elevations.
- ★ Reduces impact to riparian corridor.
- ★ Allows for development to occur within the floodplain as long as conditions are met.
- ★ Provides some water quality benefits by preserving floodplain storage.

Disadvantages

- ☹ May increase bridge design and construction costs for which backwater is a constraint.
- ☹ Requires more in depth technical review.
- ☹ Increases development costs.